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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/622,557

07/18/2003

David J. Young

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07/15/2005

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EXAMINER

CHANG, JOSEPH

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/622,557	Applicant(s) YOUNG ET AL.	
	Examiner Joseph Chang	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
 4a) Of the above claim(s) 7-31, 37 and 50-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 32-36, 38-49 and 56-62 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-62 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/18/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-6, 32-62 drawn to Group I in the reply filed on 1/18/05 is acknowledged.

Claims 7-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/18/05.

Upon further examination, claims 37, 50-52 should have been grouped as Invention II and claims 53-55 should have been grouped as Invention III and therefore, claims 37 and 50-55 are withdrawn from further consideration.

Thus, claims 1-6, 32-36, 38-49 and 56-62 drawn to Group I, are the elected Invention.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 32-36, 38-43, 56-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartera, US Patent No. 3879992.

Regarding Claims 56, Bartera discloses a method (Figures 1-2) comprising determining an operating temperature of a first crystal (10) based on a difference in frequency (36, Col.4, lines 11-14) between a signal generated based on the first crystal (10) and a signal generated based on a second crystal (12) that is thermally coupled to the first crystal (Col. 6, line 55).

Regarding Claim 57, Bartera discloses adjusting a clock signal (col.2, lines 33-35) generated based on the first crystal (10) for frequency variations of the first crystal (10) related to the operating temperature (col.2, lines 19-33).

Regarding Claim 58, 1, 32, 33, 36, 38, 39, Bartera discloses as discussed above and further discloses generating a first signal (20) based on a frequency of oscillation of the first crystal (10); generating a second signal (22) based on a frequency of oscillation of the second crystal (12); wherein the first signal's frequency is more stable, with respect to temperature, than the second signal's frequency (col. 2, line 29). It is noted that the preamble recitation "a down hole clock source" has not been given a patentable weight because it is a mere statement of use and the prior art structure is capable of performing the intended use.

Regarding claims 2, 40-43, 59-62, Bartera discloses as discussed above and further discloses maintaining a first count value (28) proportional to the first signal's frequency (20); and maintaining a second count value (30) proportional to the second signal's frequency (30); calculating ratio of the first and second count value (36),

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wherein the ratio of the first and second count values is proportional to the temperature of the crystals (10,12).

Regarding claims 3, 4, 34, 35, Bartera discloses as discussed above and further discloses a storage device (plotter 41). It is noted that the recitation "temperature is stored prior to deployment downhole" has not been given a patentable weight because it is a statement process which has been well established by the Courts that it is the patentability of the final product per se which must be determined in a "product-by-process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product-by-process" form or not. See *In re Hirao*, 190 USPQ 15 at 17 (footnote 3); *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Marosi et al.*, 218 USPQ 289; and in particular *In re Thorpe*, 227 USPQ 964.

Regarding claim 5, 36, Bartera discloses as discussed above and further discloses the frequency of the first signal is temperature compensated ("offsetting" col.2, lines 31-34) according to the temperature of the crystals (10,12).

Regarding claim 6, Bartera discloses as discussed above and further discloses a counter (28) coupled to the first oscillator (20 via 24). The functional recitation in the claim inherently exists in the structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g), prior art under 35 U.S.C. 103(a).

Claims 44-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartera in view of Gunawardana et al.

As noted above, Bartera discloses an oscillator having two thermally coupled crystals as recited in the claims. However, its application, a downhole tool is not disclosed.

Gunawardana et al. shows a downhole tool a clock source. As would have been well known in the art, such a downhole tool uses a clock source for synchronization or for the processor and among other devices in the system.

Accordingly, it would have been obvious to one of ordinary skill in the art to apply this oscillator of Bartera to a downhole tool because such application would have provided the benefit of synchronization for the processor and among other devices in the system as intended.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kuwabara discloses a temperature compensating circuit having two different frequency-temperature characteristics crystals.

Hayashi discloses a method of measuring temperature using quartz vibrator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Chang
Patent Examiner
Art Unit 2817